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MRI for planning and characterization of uveal melanoma patients treated with proton beam therapy

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Citation

Jaarsma-Coes, M. G. (2023, February 2). *MRI for planning and characterization of uveal melanoma patients treated with proton beam therapy*. Retrieved from <https://hdl.handle.net/1887/3514571>

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Note: To cite this publication please use the final published version (if applicable).

Acknowledgements

This work would not have been possible without the support of many individuals. On this page I would like to express my gratitude to them.

First of all, Jan-Willem, your skill to introduce new techniques into the clinic has been inspiring and has opened the doors for my clinically oriented and multidisciplinary research projects. I have appreciated our conversations, professionally and personally very much.

Prof. Webb, dear Andrew, thank you for creating such a vibrant and open research group where I felt welcome and support professionally and personally. I am grateful for being a part of the Gorter group.

Prof. Luyten, dear Gré, thank you for the trust and support you have given me. I really admire your willingness to step outside the box in research but also in management.

I would like to thank my colleges from Ophthalmology, Radiology and Radiation oncology departments. Berit, Berend, Bianca, Clair, Coen, Eleftheria, Guido, Jaco, Laura, Liset, Marcel, Marina, Myra, Teresa, Khanh, Yvonne, Wouter and the MRI technicians thank you for your contributions to the different projects. The time and effort you all put into these projects made it possible to also implement part of this research into the clinic.

I am also very grateful for all patients and volunteers who were willing to participate in the different studies. Being scanned at least ones can be quite an intense experience especially as scans were often performed shortly after receiving the life changing diagnosis of uveal melanoma.

MR-EYE colleges, Kevin, Kilany, Lisa, Lorna, Luc, Michael, Niels and all intern thank you for the inspiration, willingness to help and most of all the fun we had together. I have fond memories of our escape rooms and dinners during our outings. I also cherish the conversations and support from my office mates, Nathalie, Thomas, Wyger, and Yiming. Especially with you Nathalie it sometimes was difficult to work at the office when we were there together as we always had something to talk about. I would also like to thank the entire Gorter group. I enjoyed the inspiring conversations with people from different sides of MRI research and fun during conferences and social events such as the Friday

afternoon drinks and game night.

I am thankful to my friends from Bodegraven and Enschede for distractions when I needed them, and for patience in busy times.

Finally, I would like to thank my family for always showing their interest along the way. I especially thank my mom, my dad, Ruben and Tobian, without your continued love and support, I would not have been where I am now.

Curriculum Vitæ

Myriam Jaarsma-Coes was born on the 12th of June 1991 in Gouda. After graduation from Kalsbeek college she studied Technical Medicine at the University of Twente. She finished her bachelor in 2014 and continued her master in Medical Imaging and Interventions, where she did internships at the department of Orthopaedics (University Medical Center Utrecht, UMCU), department of Vascular surgery (St. Antonius), Intensive Care (UMCU) and at Brain Science Tools BV. In 2017 she received her master's degree in Technical Medicine at the University of Twente after having worked on quantification and analysis of white matter hyper-intensity features on MRI at the UMCU which has led to publication in at least seven journal papers. In November 2017 she started her PhD within the protons4vision project at the department of Radiology and Ophthalmology of the Leiden University Medical Center (LUMC). The results of her PhD research are described in this thesis. In January 2022 she was appointed as business intelligence developer at st Jansdal hospital where she continues her aim to improve patient care from a different perspective.

List of Publications

1. **M.G. Jaarsma-Coes**, L. Klaassen, B.M. Verbist, T.H.K. Vu, Y.L.B. Klaver, M.F. Rodrigues, C. Nabarro, G.P.M. Luyten, C.R.N. Rasch, M. van Herk, J.W.M. Beenakker *Inter-Observer variability in MR-based target volume delineation of uveal melanoma*, in revision.
2. L. Klaassen, **M.G. Jaarsma-Coes**, B.M. Verbist, T.H.K. Vu, M. Marinkovic, C.R.N. Rasch, G.P.M. Luyten, J.W.M. Beenakker *Automatic Three-Dimensional Magnetic Resonance-based measurements of tumour prominence and basal diameter for uveal melanoma*, Physics and Imaging in Radiation Oncology in press (2022).
3. **M.G. Jaarsma-Coes**, T.A. Goncalves Ferreira, M. Marinkovic, T.H.K. Vu, L. van Vught, G.R. van Haren, M.F. Rodrigues, Y.L.B. Klaver, B.M. Verbist, G.P.M. Luyten, C.R.N. Rasch, J.W.M. Beenakker *Comparison of MRI-based and conventional measurements for proton beam therapy of uveal melanoma*, Ophthalmology Retina in press (2022).
4. T.A. Goncalves Ferreira, **M.G. Jaarsma-Coes**, M. Marinkovic, B. Verbist, R.M. Verdijk, M.J. Jager, G.P.M. Luyten, J.W.M. Beenakker *MR imaging characteristics of uveal melanoma with histopathological validation.*, Neuroradiology **64.1**, 171-184 (2022).
5. M.K. Hassan, E. Fleury, D. Shamonin, L. Grech Fonk, M. Marinkovic, **M. Jaarsma-Coes**, G.P.M. Luyten, A. Webb, J.W.M. Beenakker, B. Stoel *An automatic framework to create patient-specific eye models from 3D MR-images for treatment selection in patients with uveal melanoma*, Advances in Radiation Oncology **6.6**, 100697 (2021).
6. M.C.Y. Tang, **M. Jaarsma-Coes**, T.A. Ferreira, L. Zwirs - Grech Fonk, M. Marinkovic, G.P.M. Luyten, J.W.M. Beenakker *A Comparison of 3 T and 7 T MRI for the Clinical Evaluation of Uveal Melanoma*, Journal of Magnetic Resonance Imaging **55.5**, 1504-1515 (2022).
7. **M.G. Jaarsma-Coes**, T.A. Ferreira, P.J. van Houdt, U.A. van der Heide, G.M.P. Luyten, J.W.M. Beenakker *Eye-specific quantitative dynamic contrast-enhanced MRI analysis for patients with intraocular masses*, MAGMA **35.2**, 311-323 (2022).
8. M.H.T. Zwartbol, R. Ghaznawi, **M. Jaarsma-Coes**, H.J. Kuijf, J. Hendrikse, J. de Bresser, M.I. Geerlings *White matter hyperintensity shape is associated with cognitive functioning - the SMART-MR study*, Neurobiology of Aging (2022).

9. F. Inglese, **M.G. Jaarsma-Coes**, G.M. Steup-Beekman, R Monahan, T Huizinga, M.A. van Buchem, I Ronen, J. de Bresser *Neuropsychiatric systemic lupus erythematosus is associated with a distinct type and shape of cerebral white matter hyperintensities*, *Rheumatology* (2021).
10. R. Ghaznawi, M.I. Geerlings, **M.G. Jaarsma-Coes**, J. Hendrikse, J. de Bresser *Association of White Matter Hyperintensity Markers on MRI and Long-term Risk of Mortality and Ischemic Stroke*, *Neurology* **96.17**, e2172-e2183 (2021).
11. I.M.J. Kant, A.J.C. Slotter, **M.G. Jaarsma-Coes**, S.J.T. van Montfort, T.D. Witkamp, J. Hendrikse, J. de Bresser *Preoperative MRI brain phenotypes are related to postoperative delirium in older individuals*, *Neurobiology of Aging* **101**, 247-255 (2021).
12. E. Fleury, P. Trnkova, E. Erdal, M. Hassan, B. Stoel, **M. Jaarsma-Coes**, G. Luyten, J. Herault, A. Webb, J.M.W. Beenakker, J.-P. Pignol, M. Hoogeman *Three-dimensional MRI-based treatment planning approach for non-invasive ocular proton therapy*, *Medical Physics / Early View* (2020).
13. M.H.T. Zwartbol, R. Ghaznawi, **M. Jaarsma-Coes**, H.J. Kuijff, J. Hendrikse, J. de Bresser, M.I. Geerlings *The association between white matter hyperintensity shape and cognitive functioning: The SMART-MR study*, *Alzheimer's & Dementia* **16.S4** (2020).
14. **M.G. Jaarsma-Coes**, M. Marinkovic, E. Astreinidou, M.S. Schuurmans, F.P. Peters, G.M.P. Luyten, C.R.N. Rasch, J.W.M. Beenakker *Measuring eye deformation between planning and proton beam therapy position using magnetic resonance imaging*, *Phys Imaging Radiat Oncol.* **16**, 33-36 (2020).
15. T.A. Goncalves Ferreira, C.F. Pinheiro, P. Saraiva, **M.G. Jaarsma-Coes**, S.G. van Duinen, S.W. Genders, M. Marinkovic, J.W.M. Beenakker *MR and CT Imaging of the Normal Eyelid and its Application in Eyelid Tumors*, *Cancers* **12.3**, 658 (2020).
16. **M.G. Jaarsma-Coes**, T.A. Ferreira, G.P.M. Luyten, J.W.M. Beenakker *Reaction on "Ocular ultrasound versus MRI in the detection of extrascleral extension in a patient with choroidal melanoma"*, *BMC Ophthalmol.* **19.1**, 193 (2019).
17. I.M.J. Kant, H.J.M.M. Mutsaerts, S.J.T. van Montfort, **M.G. Jaarsma-Coes**, T.D. Witkamp, G. Winterer, C.D. Spies, J. Hendrikse, A.J.C. Slotter, J. de Bresser, BioCog Consortium *The association between frailty and MRI features of cerebral small vessel disease*, *Sci Rep.* **9.1**, 11343 (2019).
18. T.A. Goncalves Ferreira, L. Grech Fonk, **M.G. Jaarsma-Coes**, G.R. van Haren, M. Marinkovic, J.W.M. Beenakker *MRI of Uveal Melanoma*, *Cancers* **11.3**, 377 (2019).
19. **M.G. Jaarsma-Coes**, T.A. Goncalves Ferreira, G.R. van Haren, M. Marinkovic, J.W.M. Beenakker *MRI enables accurate diagnosis and follow-up in uveal melanoma*

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- patients after vitrectomy*, *Melanoma Res.* **29.6**, 655-659 (2019).
20. **M.G. Jaarsma-Coes**, R. Ghaznawi, J. Hendrikse, C. Slump, T.D. Witkamp, Y. van der Graaf, M.I. Geerlings, J. de Bresser on behalf of the SMART Study Group *MRI phenotypes of the brain are related to future stroke and mortality in patients with manifest arterial disease: The SMART-MR study.*, *J Cereb Blood Flow Metab* **40.2**, 354-364 (2020).
21. R. Ghaznawi, M.I. Geerlings, **M.G. Jaarsma-Coes**, M.H.T. Zwartbol, H.J. Kruijf, Y. van der Graaf, T.D. Witkamp, J. Hendrikse, J. de Bresser on behalf of the SMART Study Group *The association between lacunes and white matter hyperintensity features on MRI: The SMART-MR study.*, *J Cereb Blood Flow Metab* **39.12**, 2486-2496 (2019).